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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/537,546	03/30/2000	Knut Beneke	31659-157399	7765
26694	7590	10/09/2003	EXAMINER	
VENABLE, BAETJER, HOWARD AND CIVILETTI, LLP			LE, BRIAN Q	
P.O. BOX 34385			ART UNIT	
WASHINGTON, DC 20043-9998			PAPER NUMBER	
			2623	

DATE MAILED: 10/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/537,546

Applicant(s)

BENEKE, KNUT

Examiner

Brian Q Le

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 July 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-3, 7 and 8 is/are rejected.
- 7) ☒ Claim(s) 4-6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 March 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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Response to Amendment and Arguments

1. Applicant's amendment filed July 28, 2003, has been entered and made of record.
2. Applicant's arguments with regard to claims 1-7 have been fully considered, but are not considered persuasive because of the following reasons:

Regarding claim 1, the Applicant argues (page 6 and 8) that the step of determining a ratio is not considered well known in the art and asks the Examiner to provide the further information. Krug actually teaches this ratio concept at FIG. 19, elements 2060, 2070; FIG. 4; column 6, lines 16-19 and column 7, lines 50-60. Also, the Applicant argues (page 7) that Krug does not place individual markings about any images. However, Krug clearly indicates this concept at FIG. 9A-9C, column 30, lines 17-19 and column 29,60-65. The Applicant further argues (page 7) that there is no motivation to combine with Krug. However, the Examiner intentionally uses Burger teaching of image arrangement and combine individual markings that are mutually fit. Regardless of the purpose of the invention, Burger still clearly teaches the method of arranging and combine individual markings that are mutually fit. On page 8, the Applicant argues that the present invention does not divide image into segments. This limitation was not address in any of the claims.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 1-3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hiraoglu U.S. Patent No. 6,272,230 and Krug U.S. Patent No. 5,838,758.

Referring to claim 1, Hiraoglu teaches a method of processing an X-ray image of articles (tomography) (Abstract) contained in a transilluminated object and made visible (baggage scanning system inherently transilluminate objects and make them visible) (column 6, lines 25-32) for an observer on a monitor screen (computer) (FIG. 4, "EDA Computer"), comprising the following steps:

(a) placing individual markings about the image or certain, previously determined articles (pixels are being marked from the computation of region of interest and boundary box) (FIG. 6, element 314; FIG. 8A-8B; FIG. 11; column 19, lines 15-20; column 20, lines 40-41; column 22, lines 60-64);

(b) automatically (a computer software processing will process automatically) and stepwise combining the individual markings into a final added marking if at least two individual markings mutually fit (FIG. 9, steps 342-346; column 29, lines 1-35; column 31, lines 52-57); said combining step comprises the steps of

(1) comparing for fit mutually facing sides of two adjoining individual markings (to check if the objects satisfy the criterion before merging) (column 31, lines 52-67 and column 32, lines 1-25); and

Hiraoglu does not clearly teaches the concept of determining a ratio of an overlapping area of said two adjoining individual markings to the total area of at least one of said two adjoining individual markings. Krug teaches a method of processing X-ray image of articles (Abstract)

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that determining a ratio of overlapping area of adjoining individual markings (FIG. 19, elements 2060 and 2070 and column 4, lines 15-31).

Modifying Hiraoglu's method of method of processing an X-ray image of articles according to Krug will provide the ability to assign the selected areas with the appropriate probability for the presence of different object in the vicinity and/or neighborhood (column 6, lines 17-25). This would improve processing e.g. allow enhanced detection of objects more accurately and therefore, it would have been obvious to one of the ordinary skill in the art to modify Hiraoglu according to Krug.

Referring to claim 2, Krug teaches the method wherein said comparing step comprises the step of comparing lengths and positions of said facing sides (column 6, lines 14-18).

For claim 3, Krug further teaches the method wherein said step of determining a ratio comprises the step of determining a ratio of said overlapping area of said two adjoining individual markings with the total area of one of said two adjoining individual markings (FIG. 4, column 5, lines 20-32; column 3, lines 1-22; and column 4, lines 15-32).

Referring to claim 7, Hiraoglu teaches the method wherein said comparing and determining steps include the steps of comparing coordinates in which said individual and individual added markings are positioned (column 20, lines 10-23 and column 25, lines 60-67).

Regarding claim 8, Hiraoglu teaches the method wherein the individual markings are respective rectangles surrounding the image of a respective article (FIG. 8A-8B).

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Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krug U.S. Patent No. 5,838,758 and Berger U.S. Patent No. 6,230,174.

Referring to claim 1, Krug teaches a method of processing an X-ray image of articles (Abstract) contained in a transilluminated object and made visible (column 13, lines 55-67 and column 14, lines 1-15) for an observer on a monitor screen (FIG. 1, element 9), comprising the following steps:

(a) placing individual markings about the image or certain, previously determined articles (FIG. 9A-9C and column 30, lines 17-29);

Krug does not teach the concept of automatically and stepwise combining the individual markings into a final added marking if at least two individual markings mutually fit; said combining step comprises the steps of

(1) comparing for fit mutually facing sides of two adjoining individual markings; and

(2) determining a ratio of an overlapping area of said two adjoining individual markings to the total area of at least one of said two adjoining individual markings.

Berger discloses an image arrangement which performs the step of automatically and stepwise (column 3, lines 40-47) combining the individual marking (bounding rectangle) into a final

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added marking if at least two individual markings mutually fit (FIG. 7A-7D); said combining step comprises the steps of

(1) comparing for fit mutually facing sides of two adjoining individual markings (column 5, lines 49-56); and

(2) determining an overlapping area of said two adjoining individual markings to the total area of at least one of said two adjoining individual markings (column 5, lines 56-67; column 6, lines 1-7).

Modifying Krug's method of method of processing an X-ray image of articles according to Berger will provide the ability to automatically combine individual markings into a final added marking for the overlapping areas within the image. This would improve processing e.g. allow enhanced detection of objects and therefore, it would have been obvious to one of the ordinary skill in the art to modify Krug according to Berger.

Also, Berger does not disclose the concept of determining a ratio of an overlapping area of said two adjoining individual markings to the total area. The Examiner takes Official Notice that the step of determining a ratio of said overlapping area of said two adjoining individual markings with the total area of one of the two adjoining individual markings is well known. This would allow enhanced detection of objects and therefore it would have been obvious to utilize this feature in Krug.

Referring to claim 2, Krug teaches the method wherein said comparing step comprises the step of comparing lengths and positions of said facing sides (column 6, lines 14-18).

For claim 3, Krug does not teach the method wherein said step of determining a ratio comprises the step of determining a ratio of an overlapping area of two adjoining individual

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markings with the total area of one of said two adjoining individual markings. The Examiner takes Official Notice that the step of determining a ratio of said overlapping area of said two adjoining individual markings with the total area of one of the two adjoining individual markings is well known. This would allow enhanced detection of objects and therefore it would have been obvious to utilize this feature in Krug.

Referring to claim 7, Berger teaches the method wherein said comparing and determining steps include the steps of comparing coordinates (column 5, lines 1-8) in which said individual (column 5, lines 38-48) and individual added markings are positioned (column 1, lines 59-62; column 4, lines 50-53; and column 6, lines 21-36).

Allowable Subject Matter

7. Claims 4-6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

CONCLUSION

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of the art with respect to luggage inspection and image overlapping processing:

U.S. Pat. No. 5,905,806 to Eberhard, teaches x-ray computer tomography system for detecting thin objects.

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U.S. Pat. No. 5,712,926 to Eberhard, teaches x-ray computer tomography system for detecting thin objects.

U.S. Pat. No. 5,098,640 to Gozani, teaches method for detecting contraband using fast neutron activation.


U.S. Pat. No. 5,022,062 to Annis, teaches automatic detection based on illumination by penetrating radiant energy using histogram processing.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Q Le whose telephone number is 703-305-5083. The examiner can normally be reached on 8:30 A.M - 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on 703-308-6604. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to TC Customer Service whose telephone number is 703-306-0377.

BL
September 23, 2003


AMELIA M. AU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600